Asthma Knowledge and Policies of Indiana Child Care Providers

Results of a survey on the knowledge and policies of child care providers and asthma conducted by the Children and Youth Workgroup of the Indiana Joint Asthma Coalition.

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Table of Contents

Introduction

The purpose of the Indiana Joint Asthma Coalition (InJAC) Child Care Survey (Appendix A) was to determine the baseline knowledge of the asthma burden in child care settings, including environmental hazards for asthma. This relates to the *Strategic Plan for Addressing Asthma in Indiana*, specifically the goal to increase awareness of the asthma burden among children and youth, their caregivers and their community-based education and regulated early care providers. By determining the existing knowledge level of child care providers, InJAC and the Children and Youth Workgroup can more appropriately develop training materials that reinforce existing knowledge and fill knowledge gaps identified by the survey.

The five key questions identified by the Children and Youth Workgroup are:

- Do the regulated care providers know and understand the economic impact asthma has on their setting?
- Do the regulated care providers know the indoor and outdoor environmental triggers of asthma, and measures to remove the triggers?
- Do the regulated early care providers know the behavioral effects of asthma, including absenteeism, disruptive effects, care interruption and quality of life?
- Are the regulated early care providers knowledgeable about asthma?
- What are the regulated early care providers' opinions regarding asthma?

Data Collection and Participation

Data was collected from April 13, 2007 to August 17, 2007. The survey was primarily electronic utilizing SurveyMonkey.com. A small number of child care providers completed paper surveys, which were mailed to InJAC and entered into SurveyMonkey.

The target audience for the survey was all child care providers and directors in Indiana. This included employees of licensed and unlicensed child care centers and homes, unlicensed registered ministries, Head Start and Early Head Start Programs, and regulated and/or Indiana Association for the Education of Young Children [IAEYC] accredited preschools. To reach this target population, the Children and Youth Workgroup utilized partners involved in early child care. The Indiana Association of Child Care Resource and Referral (IACCRR) distributed the survey link and instructions to their 11 agencies, which subsequently passed this information on to their clients. A link to the survey was placed online on both the Indiana Child Care Health Consultant Program and Early Childhood Meeting Place Web sites. An asthma representative attended a meeting of the Child and Adult Care Food Program to provide information about the survey for these representatives to pass on to their early child care clients. Surveys were also distributed at the Indiana Association for the Education of Young Children Conference.

A total of 186 surveys were collected from at least 46 unique counties (Indiana has a total of 92 counties).

Participants most frequently reported working in a licensed child care home (35.2%), being a permanent full time employee (91.2%), having less than 25 enrolled children (47.5%), and having between zero and two children that have been diagnosed with asthma by a health care provider (49.2%).

Type of Setting	**Number of Participants**
Head Start	26 (14.3%)
Early Head Start	5 (2.8%)
Licensed child care center	34 (18.7%)
Licensed child care home	***64 (35.2%)***
Unlicensed registered child care ministry	21 (11.5%)
Other*	32 (17.6%)

*Responses to the 'Other' category included: unlicensed facilities, license-exempt facilities and preschools.

Position	**Number of Participants**
Permanent full time (over 35 hours/week)	***165 (91.2%)***
Permanent part time	10 (5.5%)
Temporary full time (over 35 hours/week)	3 (1.7%)
Temporary part time	3 (1.7%)

Number of Children Enrolled	**Number of Participants**
0-25	***86 (47.5%)***
26-50	16 (8.8%)
51-75	25 (13.8%)
76-100	13 (7.2%)
101+	41 (22.7%)

Number of Children Diagnosed with Asthma	**Number of Participants**
Don't know	25 (13.8%)
0-2	***89 (49.2%)***
3-5	33 (18.2%)
6-8	11 (6.1%)
9-11	7 (3.9%)
12 or more	16 (8.8%)

Results

Asthma Basics

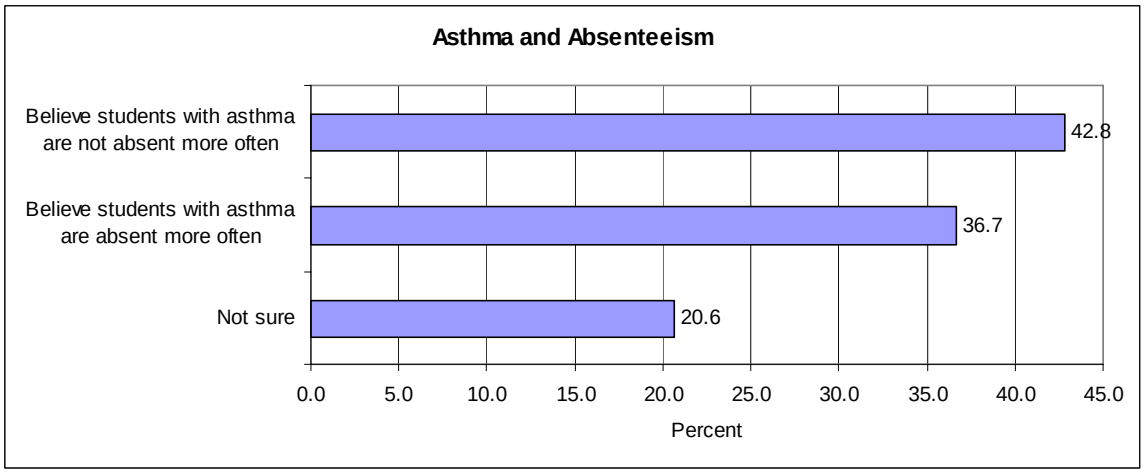
- The two basic questions regarding asthma (Is asthma: controllable, contagious?) were correctly answered by the majority of participants, 93.9% and 99.4% respectively. A third basic question on asthma asked: If a person is diagnosed with asthma will they have it for the rest of their life? Responses were evenly distributed between the three options with 31.1% responding 'yes', 37.2% responding 'no', and 31.7% responding 'don't know'.

- As for identifying the symptoms/signs of asthma, the symptoms with less than 75% accuracy were: flushed-reddening of the skin, itchy throat, pale skin, and sweating.

- For identifying conditions that create a potential trigger, the conditions with less than 75% accuracy were: indoor puddles of water resulting from plumbing or roof leaks, leaking indoor pipes, and soil used with houseplants.

- All triggers were correctly identified with more than 92% accuracy, except for cockroach droppings, which was only identified correctly by 76.3% of participants.

- Almost 43% of all participants thought students with asthma were not absent more often than children without asthma. Almost 37% reported thinking students with asthma were absent more often and 20.6% reported they were not sure.



Asthma Action Plans and Asthma Management

- One-third of participants (33.3%) responded they did not have an asthma action plan for all children with asthma. An additional 26.8% reported they did have an asthma action plan for all children with asthma, 7.7% did not know, and 32.2% reported they did not have a child with asthma in their setting at this time.

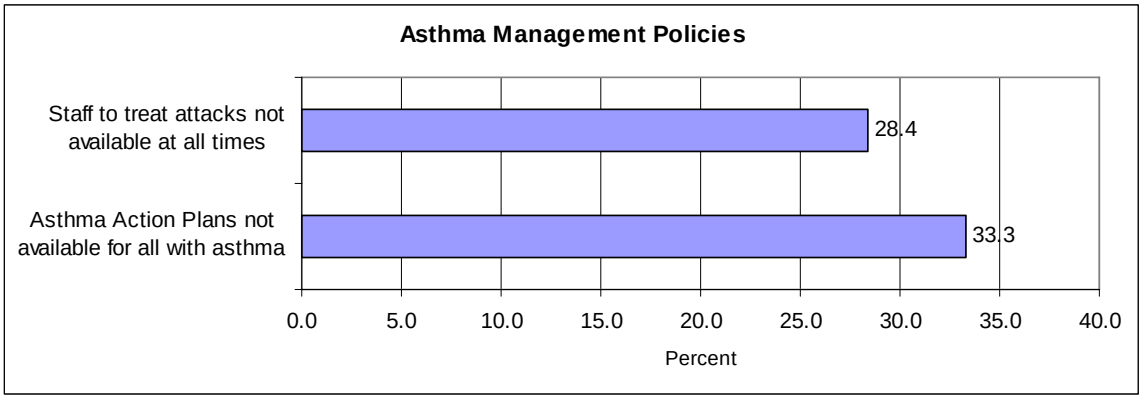
- Only 46.1% of participants reported the asthma action plan they used in their setting made it clear what action to take, whom to call, and when to call when a child is having an asthma attack. Additionally, 5.6% reported their asthma action plan did not clearly communicate all of these items and 48.3% reported they did not use asthma action plans.

- Only 38% of participants reported using asthma action plans in their setting in the past, while 52.2% reported they had not used asthma action plans in the past and 9.9% did not know.

- Among all participants, 71.7% reported having a staff person on-site who knows what to do when a child has an asthma attack all of the time, 16.7% reported some of the time, and 11.7% reported none of the time.

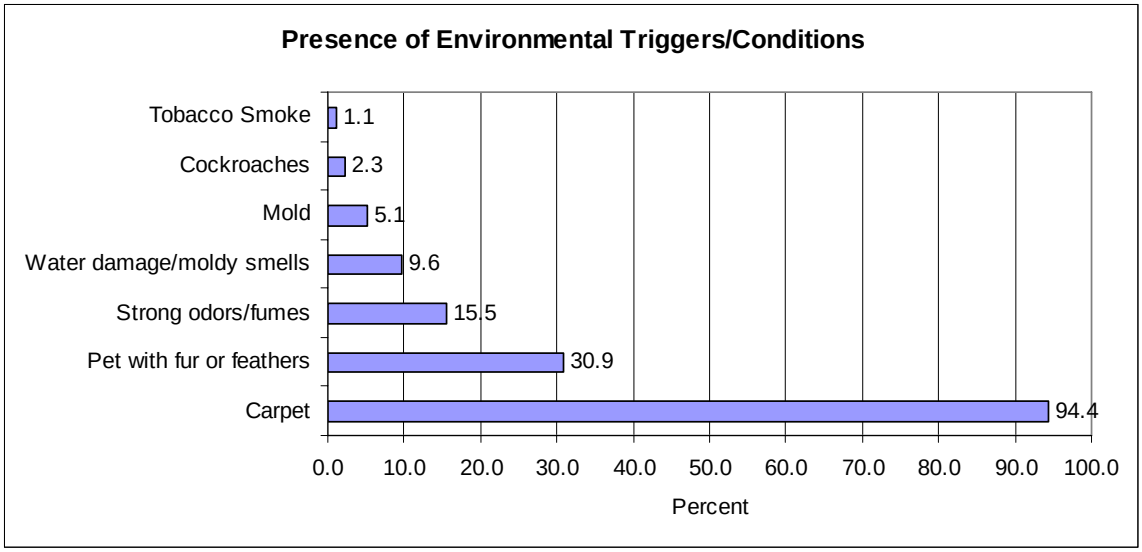
- Almost all participants reported knowing what a nebulizer is (98.3%) and knowing how to use a nebulizer (92.8%).

- Someone with a health background was reported to be available by 70.9% of participants to help develop policies and procedures for managing medications, by 67.6% of participants to help promote safe physical activities for children with asthma, by 61.3% of participants to help reduce allergens and irritants, and by 47.2% of participants to help plan field trips for children with asthma.



Asthma and the Environment

- Almost 95% of facilities reported having carpet where children are present and 30.9% of facilities reported having a pet with fur or feathers. The other triggers or conditions that may contribute to asthma were reported less frequently: strong odors or fumes from art/craft supplies, pesticides, paint, perfume, air fresheners, or cleaning chemicals (15.5%); water damage, mildew, or "musty or moldy" smells (9.6%); mold (5.1%); cockroaches (2.3%); and tobacco smoke (1.1%).



- Integrated Pest Management [IPM] programs were being used by 18.1% of facilities, with 48.9% reporting they did not use IPM and 33.0% reporting they did not know.

- Almost 74% of participants were not familiar with the Indiana Department of Environmental Management's 5-Star Environmental Recognition Program. Four participants (2.2%) indicated currently participating in the program and an additional 24.0% were familiar with the program.

- Most facilities (92.9%) reported they did not use pesticides when children were present or in areas that children used. Only 10 facilities (5.5%) reported this practice and three (1.6%) reported they did not know.

Asthma Education and Training for Staff

- Out of all survey participants, only 12.7% have attended an asthma program in the past 12 months.

- Participants were asked to identify their main sources of materials and training on health and safety topics. Participants could mark more than one response. The responses in order of highest prevalence were: Child Care Resource and Referral (68.2%), conferences (50.8%), Red Cross (39.7%), state or local health department (38.0%), child care food program meetings (34.6%), higher education (31.3%), other (23.5%), Indiana Child Care Health Consultant Program (16.8%), and have no source of regular training (5.6%). Participants were asked to specify their main source of materials or training if they marked 'other.' Sample responses to this question were: personal experience, Internet, and local hospitals or health care professionals.

- Participants preferred to learn about health issues affecting children in their care through: Internet (41.7%), conference or seminar (39.4%), booklet (38.9%), on-site at my child care (27.8%), CD (23.3%), no preference (21.7%), classroom (18.9%), and other (2.8%). Participants were asked to specify their preferred learning method if they marked 'other.' Sample responses to this question were: parents, local resources, and health care manager. Participants could mark more than one response.

- Participants would like to learn about: suggested asthma policies (73.7%), managing asthma and asthma action plans (66.5%), symptoms/signs of asthma (39.5%), causes/triggers of an asthma attack (37.7%), common asthma medications (31.1%), what asthma is (19.8%), and other (8.4%).

  Participants were asked to specify what they would like to learn about asthma if they marked 'other.' Sample responses to this question were: how to work with parents to more effectively control asthma, asthma camps, medications, and the cause of asthma. Participants could mark more than one response.

Conclusions & Limitations

The following conclusions and recommendations are based on the collected survey data and are intended to aide the Children and Youth Workgroup and others in developing training materials and programs for child care providers in Indiana. This section is divided into the four content areas used above: Asthma Basics, Asthma Action Plans and Managing Asthma, Asthma and the Environment, and Asthma Education and Training for Staff. The limitations are also discussed to help illustrate the complete impact of the results. A general limitation of the survey was the small number of participants and difficulty in reaching child care providers throughout the state. Due to the numerous types of providers (licensed child care homes, licensed child care centers, license-exempt facilities, ministries, etc.), a single communication source or method of communication is not available. This limitation will also be a factor in delivering asthma information to child care providers.

Asthma Basics

Participants were aware of basic asthma concepts, however could benefit from clarification on the chronic nature of the disease. Child care providers were generally knowledgeable about signs/symptoms of asthma, triggers, and conditions that can create triggers; however, they may need reinforcement of these topics.

The signs/symptoms that received the most inaccurate responses were: flushed-reddening of the skin, itchy throat, pale skin, and sweating. The triggers and conditions that create potential triggers that need reinforcement are cockroach droppings, indoor puddles of water resulting from plumbing or roof leaks, leaking indoor pipes, and soil used with

houseplants. Child care providers also need reinforcement on the impact of asthma on absenteeism.

Asthma Action Plans and Asthma Management

There were some limitations on the questions regarding asthma action plans. Approximately 48% of participants reported not using asthma action plans; however this may be because there is not a child with asthma currently attending the facility. Most of those that reported using asthma action plans on this question reported using plans that contained information on what action to take, whom to call, and when to call when a child is having an attack. In a separate question, only 26.8% of participants reported having an asthma action plan for all children with asthma. The remaining 73.2% included facilities that do not have a child with asthma currently attending, do not know if they have an asthma action plan for all children with asthma, and do not have an asthma action plan for all children with asthma.

More policies requiring the use of asthma action plans and education on their purpose and usefulness in the child care setting would be helpful. It may be necessary to gather more information on the barriers to child care provider's using asthma action plans (knowledge of the plans, access to a template plan, or getting parents and physicians to comply). Approximately 28.4% of facilities do not have a staff person on-site who knows what to do when a child has an attack all of the time, which further reinforces the need for asthma action plans.

Although not all facilities have a staff person on-site that knows what to do during an asthma attack and several facilities do not collect asthma action plans, almost 93% of participants reported knowing how to use a nebulizer. This may indicate that although child care providers are being taught how to use asthma equipment, they may not be given adequate instruction on what to do during an attack or when a child begins exhibiting asthma symptoms.

A large percentage of facilities did have someone with a health background available to help develop policies and procedures for managing medications (70.9%), to promote safe physical activities for children with asthma (67.6%) and help reduce allergens and irritants (61.3%). A smaller percentage (47.2%) had someone available to help plan field trips for children with asthma. More education on the availability of community resources to help with these components may be necessary.

Asthma and the Environment

Although participants were aware of environmental asthma triggers, there does seem to be some barriers to adequately removing them from facilities. For example, although carpet was identified as creating a potential trigger for asthma by over 91% of participants, more than 94% have carpet in their facility where children are present.

Similarly, almost 31% of facilities have a pet with fur or feathers, but more than 95% of participants identified animal dander as an asthma trigger. More research may be needed to determine why these triggers are not removed from the facility when child care providers know they may cause an attack for a child with asthma. Barriers may include a lack of understanding of the seriousness/severity of asthma, cost restrictions, and other policies with conflicting messages.

More information on Integrated Pest Management programs and IDEM's 5-Star Environmental Recognition Program is necessary. Many facilities are not aware of these programs and are not currently participating. Most facilities were cautious with pesticide use and did not use pesticides when children were present or in areas that children used.

Asthma Education and Training for Staff

Approximately 13% of participants had attended an asthma program in the past 12 months. However, this does not provide information as to whether asthma education was sought or obtained from other sources, such as the Internet, Child Care Health Consultant Program, etc. Participants identified their main sources of materials and training on health and safety topics to be Child Care Resource and Referral and conferences. More outreach to Child Care Resource and Referral agencies may be necessary to ensure appropriate asthma education is available to child care providers and sample policies and recommendations for asthma-friendly facilities are distributed. Conferences for child care providers may also be targeted as an outlet for disseminating asthma information.

The most frequently cited preference for learning about health issues affecting children was the Internet. This may be a very positive finding since current online resources are available addressing asthma for child care providers (i.e. the Indiana State Department of Health's *Breatheasyville* and the California Childhood Asthma Initiative's video training course). Since this survey was primarily completed online, this group may be biased towards this method of communication.

The next most commonly cited methods for learning about health issues affecting children were conferences and booklets. More effort may be needed to present at conferences targeting child care providers and distributing booklets with asthma information. These educational materials, presentations, and Internet resources should focus on suggested asthma policies, managing asthma and asthma action plans, as these were the most commonly requested topics.

General Findings

The purpose of this survey was to determine baseline knowledge of child care providers in regards to asthma. With more than 300,000 estimated children under five in full-time care, it is critical that child care providers be adequately prepared to prevent and treat asthma exacerbations. Unfortunately, due to the diverse nature of the child care system in

Indiana, child care providers are a difficult group to reach as shown by the small number of respondents to this survey. Non-licensed facilities and providers with limited or no access to the Internet may be under-represented in this report. Special consideration of these groups may be necessary to adequately provide asthma education to all facilities.

Results from this survey indicate child care providers do have basic information regarding asthma, but could benefit from additional education on asthma. Educational materials or trainings should reinforce basics, such as the chronic nature of the disease, signs and symptoms, triggers, and conditions likely to create triggers. Additionally, trainings should define the impact asthma has on absenteeism, the possible severity of the disease and need for environmental control of triggers.

Significant effort should also be spent on communicating recommended policies on asthma, including information on asthma action plans, Integrated Pest Management and IDEM's 5-Star Recognition Program. Delivery of asthma education to child care providers should be done through the Internet, presentations at conferences, booklets, and partnerships with Child Care Resource and Referral agencies. The availability and delivery of asthma education would help meet the goal of increasing awareness of the asthma burden and help ensure children receive adequate care within child care facilities.

For additional information or questions, please contact:
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Indianapolis, IN 46204
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Suggested citation:
Indiana State Department of Health, *Asthma Knowledge and Policies of Indiana Child Care Providers*, February 2008, Accessed [date of access]
http://www.in.gov/isdh/programs/asthma/publications.htm

Appendix A – InJAC Child Care Survey with correct responses highlighted.

As a child care provider, we would appreciate if you could complete the asthma survey below from the Indiana Joint Asthma Coalition (InJAC) Children and Youth Workgroup. This survey asks questions about your work environment; knowledge, behaviors, and opinions of asthma; and demographics. The survey takes about 15 minutes to complete, and your answers are anonymous. If you represent more than one early child care setting, please base your answers on the setting with the poorest health conditions.

Note: Asthma (reactive airway disease) is a disease that causes the airways of the lungs to tighten and swell, making it difficult to breathe.

1. Which of the following things and/or conditions can be found in your setting? (Circle all that apply)
    a. Carpet where children are present
    b. Cockroaches
    c. Mold
    d. Pet with fur or feathers
    e. Strong odors or fumes from art/craft supplies, pesticides, paint, perfumes, air fresheners, or cleaning and sanitation chemicals
    f. Tobacco smoke in the air
    g. Water damage, mildew, or "musty or moldy" smells

2. Do you use Integrated Pest Management?
    a. No
    b. Yes
    c. Don't know

3. Do you or another person use pesticides when children are present or in areas that children use?
    a. No
    b. Yes
    c. Don't know

4. Is there someone with a health background available to help you with the following? (Please mark No, Yes, or Don't Know for each question).

a.	Develop policies and procedures for managing medications	No	Yes	Don't Know
b.	Reduce allergens and irritants – animals with fur or feathers, mold, dust mites, cockroaches, strong odors, and fumes	No	Yes	Don't Know
c.	Promote safe physical activities for children with asthma	No	Yes	Don't Know
d.	Plan field trips for children with asthma	No	Yes	Don't Know

5. How often does your setting have a staff person on-site who knows what to do when a child or staff member has an asthma attack?
    a. None of the time
    b. Some of the time
    c. All the time

6. Do you have an Asthma Action Plan for all children with asthma? (Asthma Action Plan is a specific plan written by the child's healthcare provider that tells you what do to do when the child is having symptoms of asthma).
    a. No
    b. Yes
    c. Don't know
    d. There is not a child with asthma at my setting at this time.

7. Have Asthma Action Plans been used in your setting in the past?
    a. No
    b. Yes
    c. Don't know

8. Does the Asthma Action Plan your setting use make it clear what action to take, whom to call, and when to call when a child is having an asthma attack?
    a. No
    b. Yes
    c. We do not use Asthma Action Plans

9. If a person is diagnosed with asthma will they have it for the rest of their life?
    a. No
    b. Yes
    c. Don't know

10. Is asthma controllable?
    a. No
    b. Yes
    c. Don't Know

11. Can you catch asthma from someone else?
    a. No
    b. Yes
    c. Don't know

12. Which of the following conditions create a potential trigger/cause for an asthma attack? (Please mark No, Yes, or Don't Know for each question).

a. Carpet	No	**Yes**	Don't Know
b. Emissions from cars and trucks idling near your setting	No	**Yes**	Don't Know
c. Indoor puddles of water resulting from plumbing or roof leaks	No	**Yes**	Don't Know
d. Leaking indoor pipes	No	**Yes**	Don't Know
e. Poor air circulation – little change of the air in the room	No	**Yes**	Don't Know
f. Soil used with houseplants	No	**Yes**	Don't Know
g. Water damaged ceiling tiles	No	**Yes**	Don't Know

Survey is front and back

13. Which of the following may cause/trigger an asthma attack? An asthma attack is when someone is having difficulty breathing? (Please mark No, Yes, or Don't Know for each)

a. Pollen	No	**Yes**	Don't Know
b. Animal dander	No	**Yes**	Don't Know
c. Dust mites	No	**Yes**	Don't Know
d. Mold	No	**Yes**	Don't Know
e. Exercise	No	**Yes**	Don't Know
f. Cockroach droppings	No	**Yes**	Don't Know
g. Tobacco smoke	No	**Yes**	Don't Know
h. Air pollution	No	**Yes**	Don't Know
i. Perfume/cologne	No	**Yes**	Don't Know
j. Respiratory Infections	No	**Yes**	Don't Know
k. Changes in weather	No	**Yes**	Don't Know

14. Which of the following are possible symptoms/signs of asthma? (Please mark No, Yes, or Don't Know for each).

a. Abnormal chest movements	No	**Yes**	Don't Know
b. Coughing	No	**Yes**	Don't Know
c. Shortness of breath	No	**Yes**	Don't Know
d. Exhaustion	No	**Yes**	Don't Know
e. Flushed – reddening of the skin	No	**Yes**	Don't Know
f. Itchy throat	No	**Yes**	Don't Know
g. Pale skin	No	**Yes**	Don't Know
h. Sweating	No	**Yes**	Don't Know
i. Wheezing	No	**Yes**	Don't Know

15. Do you know what a nebulizer is? (commonly known as a breathing machine)
    a. No
    b. Yes
    c. I do not know what a nebulizer is.

16. Do you know how to use a nebulizer?
    a. No
    b. Yes
    c. I do not know what a nebulizer is.

17. Do you think children with asthma are absent more often from your setting than those without asthma?
    a. No
    b. Yes
    c. Not sure

18. Have you attended a workshop or program about asthma in the past 12 months?
    a. No
    b. Yes

19. What are your main sources of materials and training on health and safety topics? (Circle all that apply)
    a. Child Care Resource and Referral
    b. Child care food program meetings
    c. Conferences
    d. Higher education
    e. Indiana Child Care Health Consultant Program
    f. Red Cross
    g. State or local health departments
    h. Have no source of regular training
    i. Other (please specify) _____

Survey is front and back

20. How do you prefer to learn about health issues affecting children in your care? (Circle all that apply)
    a. Booklet
    b. CD
    c. Classroom
    d. Conference or Seminar
    e. Internet
    f. On-site at my child care
    g. Other (please specify) _____

21. What would you like to learn about asthma? (Circle all that apply)
    a. What is asthma?
    b. Symptoms/signs of asthma
    c. Causes/triggers of asthma attack
    d. Managing asthma and Asthma Action Plan
    e. Common asthma medications
    f. Suggested asthma policies to help children with asthma in my setting
    g. Other (please specify) _____

22. Are you familiar with the Indiana Department of Environmental Management's 5-Star Environmental Recognition Program for Child Care Facilities?
    a. No
    b. Yes
    c. My setting is already a participant in the program.

23. What **county** is your child care located in? _____

24. What type of setting do you direct and/or work in?
    a. Head Start
    b. Early Head Start
    c. Licensed child care center
    d. Licensed child care home
    e. Unlicensed registered child care ministry
    f. Other (please specify) _____

25. What is the status of your position?
    a. Permanent full time (over 35 hours per week)
    b. Permanent part time
    c. Temporary full time (over 35 hours per week)
    d. Temporary part time

26. How many children are enrolled in your setting?
    a. 0-25
    b. 26-50
    c. 51-75
    d. 76-100
    e. 101 or more

27. How many children in your setting have been diagnosed by a health care provider with asthma?
    a. 0-2
    b. 3-5
    c. 6-8
    d. 9-11
    e. 12 or more

Thank you for completing the survey. If you have questions or feedback about the survey, please contact Marcie Memmer with the Indiana Joint Asthma Coalition Children and Youth Workgroup at 317-233-7299.

Survey is front and back